

AMENDMENTS TO THE CLAIMS

A complete listing of all claims is presented below with insertions underlined (e.g., insertion), and deletions struckthrough or in double brackets (e.g., ~~deletion~~ or ~~[[deletion]]~~). The listing of claims replaces all prior versions and listings of claims in the application. The listing of claims presents each claim with its respective status shown in parentheses.

1. **(Currently Amended)** An injection mold assembly, comprising:

a cavity section having a first portion, a gate portion and a second portion positioned between the first portion and the gate portion, the first portion comprising a hardened material that defines a cavity contact surface, and the second portion comprising a high heat transfer material and at least partially defining a cavity mold surface;

a core section having at least a core contact surface and a core mold surface, a portion of the core section forming the core contact surface comprising a hardened material; and

a mold cavity having a distal and a proximal end and formed between ~~[[by]]~~ the cavity ~~section mold surface~~ and the core ~~section mold surface~~ when a portion of the cavity contact surface and a portion of the core contact surface are in contact, the distal end of the mold cavity formed by the gate ~~second~~ portion of the cavity section.

2. **(Original)** The injection mold assembly of Claim 1, wherein the second portion comprises a high heat transfer material and defines a significant portion of the cavity mold surface.

3. **(Currently Amended)** The injection mold assembly of Claim 1, wherein the first portion of the cavity section forming the cavity contact surface comprises ~~[[is]]~~ a threaded finish portion, the threaded finish portion having a lower rate of heat transfer than the second portion of the cavity section.

4. **(Currently Amended)** The injection mold assembly of Claim 1, wherein the first portion of the cavity section forming the contact surface comprises ~~is formed of~~ steel and the second portion comprises ~~is formed of~~ beryllium coated with a hardened metal.

5. (Currently Amended) The injection mold assembly of Claim 1, wherein the core section comprises an elongated core having an upper core portion and a tip, the upper core portion forming a substantial portion of the elongated core and the tip having a greater rate of heat transfer than the upper portion.

6. (Original) The injection mold assembly of Claim 5, wherein the upper core portion and the tip are configured to mate to form the core mold surface, wherein the core mold surface is substantially smooth.

7. (Currently Amended) The injection mold assembly of Claim 6, wherein the upper core portion and the tip each comprises a cylindrical flange, ~~and~~ the flanges being configured to mate with each other.

8. (Currently Amended) The injection mold assembly of Claim 7, further comprising solder that helps couple the tip to the upper core portion.

9. (Previously Presented) The injection mold assembly of Claim 1, wherein the core section comprises a high heat transfer portion disposed adjacent to the distal end of the mold cavity, the high heat transfer portion comprising a material having a greater rate of heat transfer than the portion of the core section adjacent to the proximal end of the mold cavity.

10. (Currently Amended) An injection mold assembly, comprising:

a mold cavity having an internal surface and an external surface, the external surface having a region configured to surround a gate;

a core section comprising a core member and a core holder, the core holder holding the core member, and the core member defining which defines at least a portion of the internal surface of the mold cavity;

a cavity section comprising an upper hardened portion and a gate portion, the upper hardened portion forming a lower contact surface and comprising a hardened material, and the gate portion comprising a high heat transfer material forming the region of the external surface surrounding the gate, each of the upper hardened portion and the gate portion portions-at least partially defining defines a portion of the external surface of the mold cavity.

11. (Currently Amended) The injection mold assembly of Claim 10, wherein the core member has a proximal and a distal end, and the core holder is generally concentric about the proximal end of the core member.

12. (Currently Amended) The injection mold assembly of Claim 10, wherein the core member at least partially defines the internal surface of the mold cavity.

13. (Currently Amended) The injection mold assembly of Claim 10, wherein the core member comprises an upper core portion and a base end portion, the base end portion generally comprising having a substantially hemispherical portion with a greater rate of heat transfer than the upper core portion.

14. (Currently Amended) The injection mold assembly of Claim 13, wherein the upper core portion and the base end portion at least partially form the internal surface of the mold cavity, and wherein the core member has a greater rate of heat transfer than the upper hardened portion of the cavity section.

15. (Currently Amended) The injection mold assembly of Claim 10, wherein further comprising the core section further comprises having a core hardened portion having comprising a hardened material, and wherein a parting line is disposed between the upper hardened portion of the cavity section and the core hardened portion.

16. (Currently Amended) The injection mold assembly of Claim 15, wherein the upper hardened portion defines a threaded portion of the external surface, and the cavity section further comprises:

a hardened main cavity portion formed of a hardened material, the hardened main cavity portion at least partially defining and ~~defines~~ a portion of the external surface of the mold cavity, and the hardened main cavity portion being positioned [[is]]between the upper hardened portion and the gate portion of the cavity section; and

a high heat transfer cavity portion having a lower rate of heat transfer than the gate portion, the high heat transfer cavity portion being positioned [[and is]]between the upper hardened portion and the gate portion of the cavity section.

17. (Original) The injection mold assembly of Claim 16, wherein the hardened main cavity portion is adjacent to the upper hardened portion of the cavity section, and the high heat transfer cavity portion is adjacent to the gate portion of the cavity section.

18. (Original) The injection mold assembly of Claim 17, wherein the hardened main cavity portion is adjacent to the high heat transfer cavity portion.

19. (Currently Amended) The injection mold assembly of Claim 16, wherein the hardened main cavity portion ~~comprises is formed of~~ a hardened material while the high heat transfer cavity portion ~~comprises is formed of~~ a high heat transfer material.

20. (Original) The injection mold assembly of Claim 16, wherein the high heat transfer cavity portion defines more of the external surface than the hardened cavity section.

21. (Currently Amended) The injection mold assembly of Claim 16, wherein the core member comprises[[has]] a portion with a substantially uniform cross section along its longitudinal axis, and the mold cavity comprises[[has]] a substantially uniform cross section between the portion of the core section with a substantially uniform cross section and the high heat transfer cavity portion.

22. (Currently Amended) A preform mold assembly, comprising:
a core section having a core contact surface formed of a hardened material; and
a cavity section comprising an upper portion, a gate portion and an intermediate portion positioned between the upper portion and the gate portion ~~and a lower portion~~, the upper portion comprising a hardened material and having an upper contact surface configured to mate and contact the core contact surface, and the gate portion and the intermediate ~~lower~~ portion comprising a high heat transfer material.

23. (Currently Amended) The preform mold assembly of Claim 22, further comprising a preform mold cavity when the core contact surface contacts the upper contact surface of the upper portion, the preform mold cavity having a longitudinal axis, wherein[[and]] the intermediate ~~lower~~ portion surrounds more of the longitudinal axis of the preform mold cavity than the upper portion.

24. (Original) The preform mold assembly of Claim 22, wherein the core section comprises a core having a distal end formed of a high heat transfer material.

25. (Withdrawn) A method of forming a preform, comprising:
providing a core section having a core contact surface formed of a hardened material;

providing a cavity section comprising an upper portion and a lower portion, the upper portion comprising a hardened material and having an upper contact surface configured to mate and contact the core contact surface, and the lower portion comprising a high heat transfer material;

providing a mold cavity between the core section and the cavity section; and
injecting a moldable material into the mold cavity.

26. (Withdrawn) A preform formed by the process comprising:

providing a cavity section having a first portion and a second portion, the first portion comprising a hardened material that defines a cavity contact surface, the second portion comprising a high heat transfer material and defining a cavity mold surface;

providing a core section having a core contact surface and a core mold surface, a portion of the core forming the core contact surface comprising a hardened material; and

providing a mold cavity having a distal end and a proximal end and formed by the cavity mold surface and the core mold surface when a portion of the cavity contact surface and a portion of the core contact surface are in contact, the distal end of the mold cavity formed by the second portion of the cavity section.

27. (Currently Amended) An injection mold assembly, comprising:

a lower portion;

an upper portion;

a mold cavity formed when a mating surface of the lower portion contacts an adjacent mating surface of the upper portion, the mold cavity having a distal end and a proximal end;

means for mating the lower portion and the upper portion; and

means for transferring heat at a first rate from the distal end of the mold cavity and a second rate from the proximal end of the mold cavity;

~~means of inhibiting wear of the injection mold assembly when the lower portion and the upper portion mate;~~

wherein the mating surface of the lower portion comprises a hardened material; and

wherein the first rate of transferring heat is greater than the second rate of transferring heat.

28. (Currently Amended) The injection mold assembly of Claim 27, wherein the ~~first rate is greater than the second rate of transferring heat, and the lower portion~~ comprises[[is]] a cavity section and the upper portion comprises[[is]] a core section.

29. (Currently Amended) An injection mold assembly~~insert~~, comprising a contact portion, the contact portion comprising:

an upper portion comprising a wear resistant material adapted to contact and mate with a core section of the mold assembly; and

a lower portion comprising a wear resistant material adapted to connect with a cavity section of the mold assembly ~~comprising a high heat transfer material and defining a cavity mold surface;~~ and

an insert positioned between the upper portion and the lower portion, the insert comprising a high heat transfer material and defining a cavity mold surface.

30. (New) The mold assembly of Claim 29, wherein the contact portion defines a threaded section of the cavity mold surface.

31. (New) An injection mold assembly, comprising:

a cavity section; and

a core section comprising a core member and a core holder, the core member having a proximal end and a distal end, and the core holder configured to support the core member at the proximal end of the core member;

wherein the core holder comprises a hardened material configured to contact an adjacent mating surface of the cavity section; and

wherein the core member comprises a high heat transfer material, the core member defining at least a portion of a cavity mold surface.

32. (New) The mold assembly of Claim 31, wherein the core holder is at least partially concentrically situated around the core member.

33. (New) The mold assembly of Claim 31, wherein the core holder and the core member comprise cooperating tapered portions, the cooperating tapered portions configured to position the core member relative to the core holder.

34. (New) The mold assembly of Claim 31, wherein the core member comprises an internal channel, the internal channel extending toward the distal end of the core member.
35. (New) An injection mold assembly comprising:
a core section; and
a cavity section, the cavity section comprising:
a first portion comprising a hardened material that defines a contact surface; and
a second portion having a top end and a bottom end, the second portion comprising a high heat transfer material;
wherein the first portion is situated immediately adjacent to the top end of the second portion.
36. (New) The mold assembly of Claim 35, wherein the contact surface of the first portion is configured to contact a mating surface, the mating surface comprising a hardened material.
37. (New) The mold assembly of Claim 36, wherein the mating surface comprises a surface of the core member.
38. (New) The mold assembly of Claim 36, wherein the cavity section further comprises a third portion, the third portion being positioned between the core section and first portion of the cavity section, and wherein the third portion comprises the mating surface.
39. (New) The mold assembly of Claim 38, wherein the third portion comprises a neck finish mold.
40. (New) The mold assembly of Claim 35, wherein the cavity section further comprises a gate portion, the second portion being positioned between the gate portion and the first portion.